# Multiline Accuracy Support System

MASS

USPS CERTIFIED
MULTILINE ACCURACY SUPPORT SYSTEM
UNITED STATES POSTAL SERVICE

**MLOCR**
**RVE**
**Encoding Station**

## Technical Guide

**2001-2002**
cycle

**Address Management**
NATIONAL CUSTOMER SUPPORT CENTER

6060 Primacy Pkwy Ste 201
Memphis, TN 38188-0001

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# Purpose

Coding Accuracy Support System (CASS) is a process designed in cooperation with the mailing industry to improve the accuracy of carrier route, 5-digit ZIP, and ZIP+4 codes as well as the delivery point barcodes that appear on mail.

CASS provides hardware and software manufacturers, service bureaus, and commercial mailers a means of testing and, upon achieving required accuracy scores, certifying the quality of their address-matching software. The United States Postal Service's National Customer Support Center (NCSC) evaluates and grades CASS tests and returns the results to the customer, providing useful diagnostics for correcting software deficiencies. However, CASS does not measure the accuracy of ZIP+4, delivery point, 5-digit, or carrier route codes in a mailer's address file.

Multiline Accuracy Support System (MASS) certification is a process similar to CASS but is designed for certification for Multiline Optical Character Readers (MLOCRs), Remote Video Encoding (RVE) and encoding stations.

# Overview

MASS/RVE is an extension of CASS.  The MASS certification cycle is designed to evaluate the ability of MLOCRs and encoding stations to process address information and apply an accurate delivery point barcode (DPBC) to a mailpiece. However, the RVE is designed to evaluate the ability of the entire remote video encoding operation to process address information and apply an accurate DPBC to a mailpiece. The MASS/RVE certification cycle is comprised of the following phases:

> 1. Software manufacturer certification
>
> 2. Hardware manufacturer certification
>
> 3. RVE manufacturer certification
>
> 4. User certification

All MASS/RVE tests are similar to CASS Stage II tests in that the NCSC evaluates the performance of address-matching software and barcode application hardware after it has processed a test file. The NCSC then issues MASS or RVE certification if the required accuracy is achieved.

MASS/RVE certification is an annual requirement and remains valid from the certification date until the end of any current period (i.e., from August 1 of one year through July 31 of the next). Customers must reapply for certification and meet the accuracy requirements each year to remain certified and avoid interrupted service to their customers. MASS certification is mandatory for mailers using MLOCRs/RVE or encoding stations to print DPBCs on mailpieces submitted for mailing at discount automation rates (see Domestic Mail Manual (DMM), Module A, Section 950).

# The MASS Process

## Software Manufacturer Certification

CASS certification of the address-matching software is the first step in MASS certificaton.

1. Before a software manufacturer distributes new or revised address-matching software to customers, the manufacturer must process a CASS Stage II file.

2. The NCSC evaluates the Stage II file and returns the results to the software manufacturer. Once the software displays the required level of accuracy, the NCSC issues the software manufacturer a CASS certificate.

3. The software manufacturer may distribute software to MLOCR/RVE and encoding station manufacturers.

## Hardware Manufacturer Certification

The second step in the MASS certification cycle is hardware manufacturer certification, which takes place after the manufacturer receives and installs CASS-certified address-matching software. During this phase, a manufacturer's hardware is tested to determine if it can 1) correctly read the address block on a test mailpiece, 2) process the address information through address-matching software, and 3) spray a machine-readable, accurate DPBC on the test mailpiece using software that has already been tested in a stand-alone environment.

1. The hardware manufacturer orders a MASS test deck from the NCSC using the *Multiline Accuracy Support System Order Form* (see page 15).

2. The manufacturer processes the test deck on a representative model of MLOCR or encoding station and returns it to the NCSC for evaluation.

3. If the manufacturer passes certification testing, the NCSC issues a MASS certificate and allows the manufacturer to distribute software to users.

## RVE Manufacturer Certification

The third step in the MASS certification cycle is RVE manufacturer certification. RVE system certification is a customized process. The equipment used in the process determines the number of test decks needed for certification and how they are handled. If an MLOCR is used to capture mailpiece images or to apply DPBCs, the MLOCR must be MASS certified before RVE system certification can be attempted.

RVE System Certification With MLOCR

Deck 1   One test deck is processed with all systems (including MLOCR) turned on.

Deck 2   One test deck is processed entirely to remote coding via Remote Character Recognition (RCR) or RVE. MLOCR coding must be deactivated during this part.

*Note:   Successful scores are required on all test decks to attain RVE system Certification.*

User Certification   The final step in the MASS certification cycle is user certification.

1.  Upon receipt of updated address-matching software, the user must order a separate test deck for each MLOCR or encoding station via the *Multiline Accuracy Support System Order Form.*

2.  The user processes the test deck and returns it to the NCSC for evaluation.

3.  If the user passes certification testing, the NCSC issues a MASS/RVE certificate. Upon receipt of the certification, the user may begin processing mail with the new software to obtain automation discounts.

# MASS Grading Changes

Grading for Standardization

The CASS test for hardware manufacturers will continue to grade for address standardization to verify that software does not lose or modify critical address elements. This issue is especially critical in *FASTforward*<sup>SM</sup> equipped MLOCRs.

Penalty for Misread/ Miscodes

In an attempt to reduce the number of miscodes caused by variances in optical character recognition systems, the penalty for misreads/miscodes has been increased to 1.5 percent, while at the same time, the allowance for rejects has been increased to 7.5 percent. A misread/miscode is defined as an inaccurate barcode applied to the test piece caused by an erroneous interpretation of the primary address number (i.e. 100 Main St is incorrectly read as 10 Main St). Accurate character recognition is becoming a critical factor is successfully obtaining MASS certification.

As the percentage for certification is increased in future cycles, character recognition systems are challenged to improve their capabilities to accurately discern characters, and to not spray barcodes when clearly ambiguous conditions are present. By increasing the allowance for reject pieces in the MASS test, MASS is relaxing the number of pieces required to be coded to facilitate this approach.

Penalty for Default Matches in Keying Environments

MASS will assess penalties for default matches in keying environments only. Depth of coding is an issue when an operator fails to key the entire address, particularly when the secondary address information is excluded. The penalty will be doubled for each depth of coding error.

Unreadable Barcode Allowance

An unreadable barcode is any barcode on a MASS mailpiece that can be detected by reader equipment but cannot be interpreted correctly. Unreadable barcodes were allowed during previous CASS cycles. If less than 5 percent of the total pieces returned fell into this category, the unreadable pieces were set aside and not included in the grading process.

For the 2001-2002 cycle, the 2.5 percent allowance will remain in effect, i.e., if less than 2.5 percent of the barcodes are unreadable, they will be omitted from the grading process. If more than 2.5 percent are unreadable, all pieces containing unreadable barcodes will be checked on a production-worthy automated barcode evaluator (ABE) system. (See "Automated Barcode Evaluator (ABE) System" on page 5.)

| Delivery Point Error Allowance | In past CASS cycles, MASS test mailpieces were allowed a delivery point error rate of 1 percent without penalty. A delivery point error was assessed only if the ZIP Code and add-on were correct but the delivery point values were incorrect. The delivery point error allowance is currently 0.5 percent of the total number of mailpieces available for grading. |
|---|---|
| Automated Barcode Evaluator (ABE) System | The automated barcode evaluator (ABE) system is used to grade MASS test decks that exceed the 2.5 percent unreadable barcode allowance. When more than 2.5 percent of the returned test deck's mailpieces contain an unreadable barcode, all mailpieces with an unreadable barcode will be checked on the ABE system. If the system reports that a barcode is unreadable, the mailpiece will be graded as an automatic failure. If the system reports that the barcode is readable, the mailpiece will be manually graded and scored. |

To assist MASS users in evaluating ABE performance, the CASS Department will offer a free, 100 piece test deck for system evaluation. The ABE test deck can be graded on a production-worthy ABE system by the CASS Department. The free ABE evaluation will not affect existing MASS certification status. To order this free test deck, check the appropriate box on the back of the *Multiline Accuracy Support System Order Form* (see page 15).

# MASS Certification Processes

The NCSC sends a letter to all MASS customers announcing the beginning of the manufacturer and end user certification period. Certified letters are sent to customers who were MASS certified during the previous cycle, to each customer's postal account representative, and to all postal managers of customer service support at the area and district levels. Each customer is also sent a copy of this technical guide.

| Software Vendor Certification | The software manufacturer certification process is documented in the *Coding Accuracy Support System Technical Guide*. When a new certification cycle begins, the NCSC offers a CASS Stage I test for self-evaluation and software development. Following software development, manufacturers can order a CASS Stage II file by completing the *Coding Accuracy Support System Order Form* in the CASS guide. The manufacturer processes the Stage II test file and returns it to the NCSC, where it is evaluated. Results are returned to the manufacturer. If the product meets current CASS requirements, the NCSC issues the manufacturer a CASS certificate. Upon receipt of the certificate, the manufacturer may begin distributing upgraded, certified software to customers. |
|---|---|
| Manufacturer Certification | MLOCR/RVE and encoding station manufacturers are first to receive updated software and must achieve MASS certification before distributing software to end users. Manufacturers must follow the user certification process below and the MASS test ordering steps (see page 12). |

User Certification     Upon receipt of updated software, all encoding stations, RVE and MLOCR users must submit a completed Remote Video Encoding Certification Order Form or Multiline Accuracy Support System Order Form to the NCSC Certification Department (see pages 13 - 16).

The Certification Department verifies the information on the order form, paying special attention to the software version, which must be the most current, CASS-certified version. Once the information is verified and entered into the NCSC customer master file, a test deck is printed. Each test deck is assigned a unique customer tracking number specific to the equipment serial number. (See "Test Deck Specifications" on page 7.) Production of a MASS test deck normally requires three working days; however, during peak fulfillment periods, it may require as many as 10 working days. The NCSC recommends that customers order tests as soon as they receive updated software from their manufacturer. Orders are processed in the order in which they are received.

All test decks are trayed and placed in corrugated cardboard boxes. Each box is tagged with a bright red label that reads "TEST DECK—DO NOT OPEN." The customer tracking number is attached to a document on the top of each tray and printed on the Express Mail label on each box. Also included on at least one of the trays is a computer printout that identifies the company name, machine manufacturer, model number, and serial number. The customer should verify this information before running the test deck.

*Note:    Every test deck MUST be opened and processed in the presence of a postal representative:  Do not open the boxes until the postal representative is present.*

Upon receipt of the test deck, end users must notify their postal representative of their intention to attempt MASS certification and schedule a specific day and time with their postal representative to process the test. After processing, users must return test decks to the NCSC Certification Department — preferably by Express Mail — for evaluation; however, since the user is responsible for return shipping costs, Priority Mail is also acceptable. Test decks returned by other commercial carriers will be rejected.

The NCSC receives, evaluates, and grades processed test decks and usually makes results available to the customer within two working days; however, during peak periods, this process may require five working days.

*Note:  All tests are processed in the order in which they are received.*

The NCSC sends a certificate to all users who meet current certification requirements and to their postal representative. Users who fail to certify will receive a copy of their error report and a second test deck for all machines that failed the first certification attempt. Test decks for subsequent certification attempts (three attempts or more) must be reordered by the user at $300 each for MLOCR/RVE customers and $50 each for encoding station customers. This charge does not include the Express Mail shipping costs. Customers can order additional test decks by completing the order form and faxing it to the NCSC MASS Support Department at 901-681-4440. Visa or MasterCard is accepted, and all payments by company check or money order must be received by the NCSC before orders are shipped.

# Test Deck Specifications

MASS test decks are designed to exercise MLOCR/RVE and encoding station address-matching software look-up capabilities emulating the CASS Stage files. The input addresses represent the same type and approximate mix of questions in the CASS Stage files. Although the actual addresses on the test mailpiece may differ from one test deck to another, the type and number of records are similar.

All MLOCR test decks contain approximately 3,500 test mailpieces, while all encoding station tests contain approximately 350. The MLOCR test decks are packaged in six mail trays and shipped with three trays in each box while the encoding station test deck is shipped in one box.

Both test decks used to complete RVE system certification are printed in two fonts: half of each deck is printed in a Gothic text and half in a cursive script font designed to be rejected from MLOCR processing.

Each test mailpiece consists of one piece of 8 1/2 x 11 inch white, 20 pound paper folded and inserted into a 24-pound, white-wove, 5 3/4 x 9 inches window envelope. The envelope has two windows – one upper and one lower. The upper window measures 1 1/4 x 4 inches and is located 3/8 inch from the left edge and 3 11/16 inches from the bottom edge. The bottom window measures 1 3/8 x 4 1/2 inches and is located 2 1/16 inches from the left edge and 11/16 inch from the bottom edge. (see page 19 for an example of a test mailpiece).

Data elements internal to the Postal Service are printed on the insert and appear in the upper window. These elements identify the specific deck to which any test mailpiece belongs, the customer tracking number, and the exact question key number appearing on that mailpiece. The test address appears in the lower window.

RVE  test decks are designed to exercise all portions of the RVE systems address-matching software look-up capabilities by emulating the CASS Stage II files. The addresses printed on the test mailpieces represent the same types of addressing anomalies found in the CASS Stage II test. Although the actual address represented on the test mailpiece may differ from one test deck to another, the type and number of anomalies are similar.

# Test Deck Processing Procedures

All MASS certification tests must be conducted in a "normal operations" state, meaning that the system must be configured as it would be when it is used to produce mail for automation discounts.

For systems that are *FASTforward*[SM] equipped, the *FASTforward* interface must be operational because the MASS test deck may include addresses that are forwardable. If processing does not forward any of the forwardable pieces, the graders will assume that the *FASTforward* system was not operational, and the test will be invalidated. If at least one forwardable mailpiece appears to have been produced by the *FASTforward* interface, the test deck will be considered valid and submitted for grading. MASS grading will not evaluate the accuracy of the *FASTforward* answers, only the fact that the interface was functioning. Any answer on forward-

able mailpieces that are not assigned a new address will be graded based on the accuracy of the response to the input question.

*Note:    Where a MASS-certified system would normally spray a 5-digit ZIP Code on a production mailpiece, it must also spray a 5-digit ZIP Code on the MASS test mailpiece.*

## MLOCR Setup

The actual mail processing for a MASS test deck varies between manufacturers of MLOCR equipment and model types; therefore, these guidelines are general. To achieve optimum results from a MASS certification attempt, consult the equipment manufacturer regarding all processing-related issues.

First, clean the equipment according to the manufacturer's instructions. Pay particular attention to the optics, and run the manufacturer's diagnostic routine to optimize the character-recognition software. Next, run several pieces with the barcode turned off to verify the setup and ensure that the address block is reading properly.

Verify that the barcode is as clean as possible. The NCSC processes each test deck on a barcode reader, so the quality of the barcode returned on the test mailpieces is important. If more than 2.5 percent of the mailpieces generated contain unreadable barcodes, these mailpieces will be rejected, which will decrease the chance of certification.

Make further machine preparations, such as sort schemes, pick-off settings, and vacuum system and belt speed adjustments in accordance with the manufacturer's instructions.

## MLOCR Test Deck Processing

Verify that the test deck corresponds to the machine manufacturer's model and serial number. This information is listed in the computer-generated documents provided with the test deck.

Process each test deck in a manner that ensures every test mailpiece that should receive a DPBC is coded. Be aware that by design not all test mailpieces can be coded, and some input addresses should not be coded. After processing the entire deck once, all rejects may be reprocessed (when bad barcodes are sprayed, up to 100 pieces can be over labeled). After completely processing the test deck, create a computer-generated facsimile of the Form 3553 and return it with the test deck to the NCSC for evaluation. All appropriate fields must be completed in PS Form 3553.

*Note:    The postal representative observing the test must verify that PS Form 3553 is signed and dated by the customer and attach one of the rejected test mailpieces to the form. The PS Form 3553 must comply with the requirements outlined in the most current United States Postal Service DMM and must represent the test deck processed.*

## Encoding Station Setup

The processing of mail or a MASS test deck varies between manufacturers of encoding station equipment and model types. To achieve optimum results, consult the equipment manufacturer regarding all processing-related issues.

Verify that the encoding station is in proper operating order before processing a MASS test. The barcode produced must be as clean as possible because the NCSC

processes each test deck on a barcode reader—its quality is vital. If more than 2.5 percent of the mailpieces generated contain unreadable barcodes, all mailpieces with unreadable barcodes will be rejected, decreasing the possibility of certification.

*Note:    Encoding station certification must be attempted by the end user:  no one besides the end users or his/her employee(s) may complete an encoding system test. If it is determined that unauthorized individuals completed the encoding system test, the test deck will be disqualified.*

## Encoding Station Test Deck Processing

Before beginning the MASS test, the encoding station operator should be properly instructed by the equipment manufacturer or the equipment owner. For any operational or processing issues, consult the equipment manufacturer.

Process each test deck in a manner that ensures every test mailpiece that should receive a DPBC is coded. Be aware that by design not all test mailpieces can be coded, and some input addresses should not be coded. After completely processing the test deck, create a computer-generated facsimile of the Form 3553 and return it along with the test deck to the NCSC for evaluation. **All appropriate fields must be completed in PS Form 3553.**

*Note:    The postal representative observing the test must verify that PS Form 3553 is signed and dated by the customer and attach one of the rejected test mailpieces to the form. The 3553 must comply with the requirements outlined in the most current United States Postal Service DMM and must represent the test deck processed.*

**You must return the entire test deck, including all rejected, damaged, and non-coded mailpieces.**

# Shipping Instructions

The National Customer Support Center (NCSC) in Memphis, Tennessee, sends all test decks to customer sites by Express Mail. Return shipment of a completed test deck is the customer's responsibility.  The NCSC prefers shipment via Express Mail due to its timeliness and traceability; however, since return shipment is the responsibility of the customer, Priority Mail is acceptable.

Please return completed test decks to the following address:

> MULTILINE ACCURACY SUPPORT SYSTEM
> NATIONAL CUSTOMER SUPPORT CENTER
> UNITED STATES POSTAL SERVICE
> 6060 PRIMACY PKWY STE 101
> MEMPHIS TN 38188-0001

*Note:  Test decks returned by other commercial carriers will be rejected.*

# Evaluation and Grading

Each test deck received at the NCSC is scanned by a barcode reader. A customer grading file is created and uploaded to the mainframe, where it is processed against the current MASS grading scheme outlined later in this section. (See "Appendix 2: Translation of Errors Codes and Special Flags" on page 21.). Then,

the NCSC grades the test, generates a grading report, and mails a copy of the report to the customer along with a certificate if the customer achieves certification. (See "Appendix 3: Sample MASS Certificate" on page 25.)

Grading is based on the barcode sprayed by the MLOCR onto the test mailpiece and is deemed either correct or incorrect. If no answer is the correct answer, then the correct answer is blank (or spaces). In situations where the input causes a multiple-response condition and all candidate records share the same 5-digit ZIP Code, the vendor may elect to apply a 5-digit barcode or leave spaces on the test piece.

There are three types of records to consider when grading: must answer, must not answer, and answer is optional:

1. Must answer (i.e., special flag A5). These records must be barcoded correctly. If the record is barcoded incorrectly or left blank, it is counted towards the total number of incorrectly barcoded records.

2. Optional answer (i.e., special flag AD, where no answer is bypassed). It is not mandatory to code these records. If the records are barcoded correctly, they are counted towards the total number of correctly barcoded records. If they are not barcoded correctly (left blank), they are not counted towards the total number of correctly or incorrectly barcoded records.

3. Must not answer (i.e., special flag KO, where no answer is the only correct answer). If these records are barcoded (not left blank), they are counted toward the number of incorrectly barcoded records.

|  | **Answer = NCSC Answer** | **Answer = Other Answer** |
|---|---|---|
| Must Answer | Add 1 to correct count | Add 1 to incorrect count |
| Optional Answer | Add 1 to correct count | Add 1 to incorrect count |
| Must Not Answer | Add 1 to correct count | Add 1 to incorrect count |

$$\frac{\text{Correct}}{\text{Correct} + \text{Incorrect}} = \%$$

*Note: The score required to achieve certification for MLOCRs, RVE and encoding stations is 98 percent or higher.*

# Recertification Requirements

Recertification is required if changes are made to the following:

- The address-matching software utilized by the MLOCR.
- The operating system (e.g., migrating from DOS to Windows NT)

- The camera configuration (e.g., from Habitech to ATR/Habitech), including switching from a single to a dual camera configuration.

Recertification outside the normal annual testing periods may also be required under the following conditions:

## Machine Relocation

Customers must notify the CASS Department whenever a MASS-certified system is moved or upgraded. The CASS Department understands that customers who purchase a new system often have legitimate reasons for wanting to operate it immediately: waiting for MASS certification is often impractical and costly. To address this issue, CASS provides a 45-day courtesy certification window for newly installed, relocated, or upgraded systems. This 45-day period begins on the day of installation, the day of relocation, or the day the hardware or software is upgraded. During this 45-day window, the customer can use the system to produce and submit mail and qualify for automation rates after receiving clearance from the CASS Department. The customer must receive MASS certification during this 45-day period; if the customer fails to MASS certify within this 45-day period, the system becomes ineligible to submit mail at automation rates after the 45th day.

The 45-day courtesy certification extends to relocated or upgraded systems. Relocation is defined as any movement of the system that requires disassembly and reassembly. Relocation can involve movement from one building to another or movement within a building. Recertification is required if the machine has been disassembled and reassembled. An upgrade is considered to be any change in the host computer's operating system, cameras, or any software used to operate the system, unless a waiver has been granted at the manufacturer lever.

## Change of Ownership

If an MLOCR or an encoding station is sold or ownership is transferred, the new owner must notify the CASS Department in writing so that the customer master files can be maintained. The notification must include the following:

- Equipment model number and serial number

- Previous owner's name and address

- New owner's name, address, phone number, and FAX number

If the machine is not physically relocated, a new MASS certificate may be issued; if the machine is physically relocated, the customer must follow the machine relocation guidelines above.

## Cycle Changeover Policy

New MASS requirements are introduced each year, and the changeover from one cycle to the next typically occurs on April 15. After the changeover, the MASS Department cannot test customer compliance with the previous cycle, which creates difficulties for customers completing MASS testing under the previous cycle's requirements after April 15. In this case, a courtesy MASS certification is granted to help these customers maintain normal operations between April 15 and the time at which they can comply with the new cycle requirements. However, these customers must be recertified by July 31 to continue receiving automation discounts.

# Software Revisions, Upgrades, and Patches

If an MLOCR or encoding station software manufacturer issues a revision, upgrade, or patch to existing address-matching software, the manufacturer must submit written notification to the CASS Department before distributing the software. The written notification must include a brief description of the changes being made and the expected results of those changes. The NCSC will evaluate the documentation and determine an appropriate course of action, which may include recertification of all users, a sample of the user base, hardware manufacturers only, or software manufacturers only. It is possible that no action will be taken following notification.

# Ordering a MASS Test Deck

To order a MASS certification test deck, complete the *Multiline Accuracy Support System Order Form* on page 15.

Customers are responsible for ordering test decks. One test deck is required for each machine to be certified. The NCSC automatically sends a second test deck free-of-charge for any machine that fails to certify on the first attempt. If the machine fails on the second attempt, the user is charged a nominal fee for each successive attempt and must submit a completed order form for each test deck. (See "User Certification" on page 6.)

## REMOTE VIDEO ENCODING CERTIFICATON ORDER FORM

### Customer Information
### (Required)

Attention: _____

Company Name: _____

Address: _____

City: _____ State: _____ ZIP+4: _____

Phone: ( _____ ) _____ FAX: ( _____ ) _____

Email: _____

### United States Postal Service Account Representative Information

Attention: _____

Address: _____

City: _____ State: _____ ZIP+4: _____

Phone: ( _____ ) _____ FAX: ( _____ ) _____

### Remote Video Encoding Site Information

Contact Name: _____

Company Name: _____

Address: _____

City: _____ State: _____ ZIP+4: _____

Phone: ( _____ ) _____ FAX: ( _____ ) _____

Software: _____

Version: _____ Configuration: _____

### Equipment Information

Image Capturing Equipment Manufacturer: _____

Model Number: _____ Serial Number: _____

Barcoding Equipment Manufacturer (if different than above): _____

Model Number: _____ Serial Number: _____

MASS Certification Date (if applicable): _____

| Return Order Form | NCSC Use Only |
|---|---|
| CERTIFICATION DEPARTMENT<br>NATIONAL CUSTOMER SUPPORT CENTER<br>UNITED STATES POSTAL SERVICE<br>6060 PRIMACY PKWY STE 101<br>MEMPHIS TN  38188-0001<br>FAX: 901-681-4440 | Customer #: _____<br><br>Date: _____<br><br>Prdt Code: _____ |

*See Reverse*

I request my certification be maintained in Postal Service documents and records as

❑ Service Bureau ❑ Mailer ❑ Manufacturer - License # _____
❑ I do not wish to be listed in any postal publications

**I hereby certify that all information on this application is accurate and correct. I also certify that the responses provided on the RVE certification test deck will be obtained using the same configuration as used in the processing of customer/client address files and that any modification to the products used to process this test will require retesting and recertification prior to use or release. I have read the Remote Video Encoding Certification Guide and will process 1 or 2 (circle one) test decks to meet system certification requirements. I have included a flow chart or system diagram with this application.**

**Company Official Signature**

_____

*Name (please print)*

_____

*Signature*

# MULTILINE ACCURACY SUPPORT SYSTEM ORDER FORM

## Customer Information (Required)

Attention: _____

Company Name: _____

Address: _____

City: _____ State: _____ ZIP+4: _____

Phone: ( _____ ) _____ FAX: (____) _____

Salesperson: _____ Phone: _____

Email: _____

## USPS Account Representative Information

Attention: _____

Company Name: _____

Address _____

City: _____ State: _____ ZIP+4: _____

Phone: ( ____ ) _____ FAX: ( ____ ) _____

I request that my certification be maintained in Postal Service documents and records as:

❑ Service Bureau ❑ Mailer ❑ Manufacturer ❑ I do not wish to be listed in postal pubs.

❑ All MLOCR machines connected to a *FASTforward*[SM] black box MUST process the MASS test deck with *FASTforward*[SM] mode turned on. Check here if a *FASTforward*[SM] black box is installed and this machine is operating with *FASTforward*[SM] turned on.

I hereby certify that all information on this application is accurate and correct. I also certify that the responses provided on the MASS certification test deck will be obtained using the same configuration as used in the processing of customer/client address files and that any modification to the product used to process this test will require retesting and recertification prior to use or release. The MASS test deck will be processed in-house with company-owned or leased software/hardware. I further certify this address-matching product contains technology that disables access to outdated USPS data as stated in the DMM A950, section 3.0.

## Company Official's Signature (required)

_____
*Name (please print)*


_____
*Signature (required)*                                          *Date*

| Return Form To | NCSC Use Only |
|---|---|
| MULTILINE ACCURACY SUPPORT SYSTEM<br>NATIONAL CUSTOMER SUPPORT CENTER<br>UNITED STATES POSTAL SERVICE<br>6060 PRIMACY PKWY STE 101<br>MEMPHIS TN 38188-0001<br>FAX (901) 681-4440 | Customer #: _____<br><br>Date: _____<br><br>Prdt Code: _____ |

# Multiline Optical Character Reader (MLOCR) Equipment Information

If the matching software/hardware has optional parameters, you must return a list of the parameters that will be used to process the MASS test with this form. A computer-generated form (PS Form 3553) must be returned with each test deck.

*NOTE: This page may be copied for multiple MLOCR systems. A completed form must be submitted for each MLOCR system that will utilize FASTforward*[SM] *processing.*

| **MLOCR** | | |
|---|---|---|
| Software: _____ | | |
| Product | Version # | Configuration |
| Equipment: _____ | | |
| Manufacturer | Model # | Serial # |
| **Encoding Stations** | | |
| Software: _____ | | |
| Product | Version # | Configuration |
| Equipment: _____ | | |
| Product | Model # | *Serial # |

* List all serial numbers for networked systems.

**Complete the required information below if a *FASTforward*[SM] Black box is installed and this machine is operating with *FASTforward*[SM] turned on**.

| ***FASTforward*[SM] Manufacturer Information** | |
|---|---|
| Contact Name | |
| Vendor Name | |
| Mailing Address | |
| City, State and ZIP | |
| Telephone Number | |

| **Hardware Information** | |
|---|---|
| Transport and Belt Speed | |
| Injet Printer and Model # | |
| Optics (list all cameras) | |
| | |
| | |

☐ **Check here if this machine is multiplexed and list all serial numbers for this multiplex system below.**

| |
|---|
| |
| |

# Appendix 1:

## PS Form 3553

**UNITED STATES POSTAL SERVICE** ®

# Coding Accuracy Support System (CASS) Summary Report

*This form may be generated as the output of address matching processing using CASS (Coding Accuracy Support System) certified software in conjunction with current USPS Address Database Files. Any facsimile must contain the same information in the same format as this printed form.*

*See DMM A950 for more information.*

## A. Software

**CASS - A1**

| 1. CASS Certified Company Name | 2. CASS Certified Software Name & Version | 3. Configuration |
|---|---|---|
| 4. Z4 Change Certified Company Name | 5. Z4 Change Certified Software Name & Version | 6. Configuration |
| 7. LOT Certified Company Name | 8. LOT Certified Software Name & Version | 9. Configuration |
| 10. DPC Utility Certified Company Name | 11. DPC Utility Software Name & Version | 12. Configuration |

**MASS - A2**

| 1. MASS Certified Company Name | 2. MASS Certified Software Name, Version, & Model No. | 3. Configuration |
|---|---|---|
| | | 4. MLOCR Serial No. |

## B. List

| 1. List Processor's Name | **2. Date List Processed** | **3. Date of Database Product Used** |
|---|---|---|
| | a. Master File | a. ZIP + 4 File |
| | b. Z4 Change | b. Z4 Change |
| | c. LOT | c. LOT |
| | d. CRIS | d. CRIS |
| 4. List Name or ID No. | 5. Number of Lists | 6. Total Records Submitted for Processing |

## C. Output

| Output Rating | 1. Total Coded | 2. Validation Period | | 1. Total Coded | 2. Validation Period |
|---|---|---|---|---|---|
| **a. ZIP + 4 Coded** ▷ | | From        To | **d. 5-Digit Coded** ▷ | | From        To |
| **b. Z4 Change Processed** ▷ | | | **e. CR RT Coded** ▷ | | From        To |
| **c. DPBC Assigned** ▷ | | From        To | **f. LOT Assigned** ▷ | | From        To |

## D. Mailer

I certify that the mailing submitted with this form has been coded (as indicated above) using CASS-certified software meeting all of the requirements of *Domestic Mail Manual A950.*

| 1. Mailer's Signature | 2. Date Signed | 3. Name & Address of Mailer |
|---|---|---|
| | | |

## E. Qualitative Statistical Summary (QSS)

**For informational Purposes Only:** QSS is solely made available for the list processor's review and analysis. This information is not to be considered by the Postal Service personnel in determining rate eligibility under any circumstances. See reverse for a detailed explanation.

| High Rise Default | High Rise Exact | Rural Route Default | Rural Route Exact | Locatable Address Conversion System (LACS) |
|---|---|---|---|---|
| | | | | |

PS Form **3553,** November 2000 *(Page 1 of 2)*

# Instructions

## A. CASS/MASS Software

**CASS-A1.1, 4, 7, 10, & MASS-A2.1—** **Company Names:** Enter the name for *each kind of software*, as it appears on the CASS/MASS certificate.

**CASS -A1.2, 5, 8, 11, & MASS-A2.2 —** **Software Name & Version:** Enter name and version used for *each kind of software*, as it appears on the CASS/MASS certificate.

**CASS A1.3, 6, 9, & 12, & MASS-A2.3 —** **Configuration:** Enter the specific software configuration parameter settings as it appears on the CASS/MASS certificate.

**MASS-A2.4— MLOCR:** Enter the MLOCR serial number as it appears on the MASS certificate.

**NOTE:** If information entered in this section represents the list processing of more than one certified company, attach a list of company names, software names and versions, as well as the configuration to code the address information used in the mailing.

## B. List

**1. List Processor's Name:** Enter the name of the company that coded the address list(s) and/or performed ZIP + 4 matching, using CASS certified software. Attach a list if additional space is required.

**2. Date List Processed:** Enter the processing date for each list. If multiple lists, enter the oldest date from the lists.

**3. Date of Database Product Used:** Enter the version date of each database package used for processing. If multiple lists, enter the oldest version date from the lists.

**4. List Name or ID No:** Enter the name or identification number of the address list. If more than one list is used, leave blank. If the identification number is used, the number MUST be preceded by "ID#".

**5. Number of Lists:** Enter the number of lists used to produce the mailing.

**6. Total Records Submitted for Processing:** Enter the total number of address records (from all lists in item B5) submitted at the time the list(s) was coded.

## C. Output

1. Total Coded: Enter the total number coded.
2. Validation Period: Enter the effective dates as shown below.

| Product Name | From Date | To Date |
|---|---|---|
| **ZIP + 4 Coded** | 30 days before (the 15th of each month or bi-monthly) or no later than 105 days after the file date. | 180 days after from the ZIP + 4 valid "From" date. |
| **Total Delivery Point Barcoded** | 30 days before (the 15th of each month or bi-monthly) or no later than 105 days after the ZIP + 4 product file date. | 180 days after from the DPBC valid "From" date. |
| **Five-Digit Coded** | 30 days before (the 15th of each month or bi-monthly) or no later than 105 days after the ZIP + 4, Five-digit ZIP, or the Carrier Route product date. | 365 days after from the Five-Digit valid "From" date. |
| **Total Carrier Route Coded** | 30 days before or up to 105 days after the ZIP + 4, Five-digit ZIP, or the Carrier Route product date (the 15th of each month or bi-monthly) or up to 105 days after the file date. | 90 days after the Carrier Route Valid "From" date. |
| **Line Of Travel (LOT) Sequence No. Assigned** | 30 days before or up to 105 days after the LOT file product date (the 15th of each month or bi-monthly). | 90 days after the LOT valid "From" date. |

## D. Mailer

**1. Signature:** Signature of individual who processed the list, or the mailer's representative.

**2. Date Signed:** Enter the date this form is signed.

**3. Name & Address of Mailer:** Enter the name and address of the individual whose signature appears in item D1.

---

**Qualitative Statistical Summary (QSS)**

This information allows mailers and list prossesors to evaluate the quality of their address list processed through CASS software before its contents enter the mailstream. A significant number of high rise and/or rural route default matches, although these addresses remain eligible for postal automation rate discounts at this time, increase the costs and reduce the efficient delivery of this mail. Mailers should research to obtain secondary unit designator address information for high rise addresses and specific box number for rural route addresses which are coded to default records on the National ZIP + 4 File.

**Locatable Address Conversion System**

Entries in the box show the number of addresses which have been converted from primarily rural route and box number to standard city style addresses under the National Emergency 911 Program. Mailers should make every effort to obtain current address information from a LACS vendor. Please visit our website at "ribbs.usps.gov/files/lacs for more information.

---

# Appendix 2:

## Test Mailpiece Example

# Test Mailpiece Example

9"

5 3/4"

1 3/8"

1"

4 1/2"

1 1/4"

4"

||||||||||||||||||||||||||||

021890CQS

J9735488

USPS Internal Information

SMITH & WALPOLE
5173 SAN SIMEON
SANTA BARBARA CA  93111

||||||||||||||||||||||||||||

Customer's Barcoded Answer

11/16"

3/8"

3 11/16"

2 1/16"

CASS Test Address
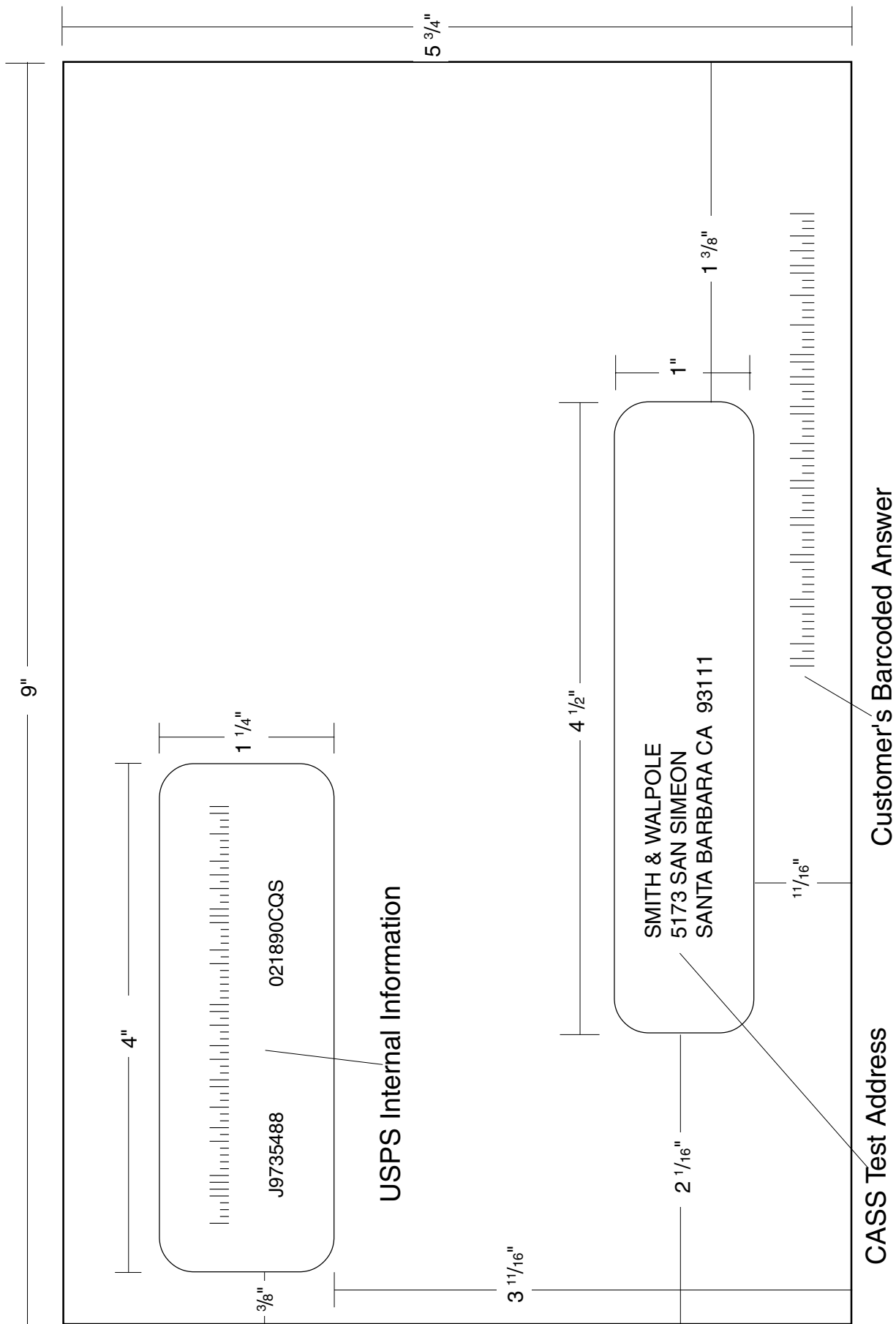
# Appendix 3:

## Translation of Error Codes and Special Flags

## Error Codes

| | |
|---|---|
| 01 | 5-digit ZIP not match |
| 02 | ZIP+4 not match |
| 03 | Carrier ID not match |
| 04 | City name not match |
| 05 | State abbreviation not match |
| 06 | Out of range |
| 07 | Address is non-deliverable |
| 08 | Unique ZIP Code not finest level of code |
| 09 | LACS indicator |
| 10 | Perfect address |
| 11 | General standardization error |
| 12 | LOT sequence |
| 13 | LOT A/D code |
| 19 | Incorrect delivery point barcode (Non-Fatal) |
| 20 | Incorrect delivery point barcode |
| 21 | PMB |
| 22 | Default flag error |
| 30 | History |

## Record Type

| | |
|---|---|
| S | Street |
| P | PO Box |
| R | Rural Route |
| H | Highrise |
| F | Firm |
| G | General Delivery |

## Standard Address with Elements
**(Spelled out or Abbreviated)**

| | |
|---|---|
| AA | Firm Name - Abbreviation |
| AB | Firm Name - Noise words |
| AC | Firm Name - Address similar to firm name |
| AD | Firm Name - Swap firm name and Address field |
| AE | Normalized street name |
| AF | Street Name - Spelling variation |
| A0 | 5-digit |
| A1 | Dropped 5-digit |
| A4 | 5-digit with non-mailing name |
| A5 | Dropped 5-digit with non-mailing name |
| A8 | 5digit misspelled city |
| * A9 | Dropped 5-digit with misspelled city |

## Standard Address
**(Includes Reversed Alphanumeric Primary/Secondary Numbers, Reversed Pre/Post Directionals, and Secondary Number Combined with Primary Number)**

| | |
|---|---|
| B0 | 5-digit |
| B1 | Dropped 5-digit |
| * B2 | 5-digit with misspelled street |
| * B3 | Dropped 5-digit with misspelled street |
| B4 | 5-digit with non-mailing name |
| B5 | Dropped 5-digit with non-mailing name |
| * B6 | 5-digit with misspelled street and non-mailing name |
| * B7 | Dropped 5-digit with misspelled street and non-mailing |

---

| | |
|---|---|
| | name |
| B8 | 5-digit with misspelled city |
| * B9 | Dropped 5-digit with misspelled city |
| BE | Normalized street names |

## Standard Address with Post-Directional Dropped or Incorrect

| | |
|---|---|
| CC | Post-directional changed to a non-cardinal directional - no match |
| C0 | 5-digit |
| C1 | Dropped 5-digit |
| * C2 | 5-digit with misspelled street |
| * C3 | Dropped 5-digit with misspelled street |
| C4 | 5-digit with non-mailing name |
| C5 | Dropped 5-digit with non-mailing name |
| * C6 | 5-digit with misspelled street and non-mailing name |
| * C7 | Dropped 5-digit with misspelled street and non-mailing name |
| C8 | 5-digit with misspelled city |
| * C9 | Dropped 5-digit with misspelled city |

## Standard Address with Pre-Directional Dropped or Incorrect

| | |
|---|---|
| DC | Pre-directional changed to a non-cardinal directional - no match |
| D0 | 5-digit |
| D1 | Dropped 5-digit |
| * D2 | 5-digit with misspelled street |
| * D3 | Dropped 5-digit with misspelled street |
| D4 | 5-digit with non-mailing name |
| D5 | Dropped 5-digit with non-mailing name |
| * D6 | 5-digit with misspelled street and non-mailing name |
| * D7 | Dropped 5-digit with misspelled street and non-mailing name |
| D8 | 5-digit with misspelled city |
| * D9 | Dropped 5-digit with misspelled city |

## Standard Address with Suffix Dropped

| | |
|---|---|
| E0 | 5-digit |
| E1 | Dropped 5-digit |
| * E2 | 5-digit with misspelled street |
| * E3 | Dropped 5-digit with misspelled street |
| E4 | 5-digit with non-mailing name |
| E5 | Dropped 5-digit with non-mailing name |
| * E6 | 5-digit with misspelled street and non-mailing name |
| * E7 | Dropped 5-digit with misspelled street and non-mailing name |
| E8 | 5-digit with misspelled city |
| * E9 | Dropped 5-digit with misspelled city |

## Dual Address

| | |
|---|---|
| F0 | Street address |
| F1 | Box record |
| F4 | Street address with non-mailing name |
| F8 | Street address with misspelled city |

---

| | |
|---|---|
| F9 | Box record with misspelled city |

## Aliases

| | |
|---|---|
| G0 | 5-digit - Base |
| G1 | 5-digit - Alias |
| G2 | Dropped 5-digit - Base |
| G3 | Dropped 5-digit - Alias |
| ** G4 | 5-digit - Out of range |

## Alias/Mult Response

| | |
|---|---|
| ** H0 | 5-digit - Base |
| ** H1 | 5-digit - Alias |

## Small Town Default

| | |
|---|---|
| I0 | Exist in ZIP+4 |
| ** I1 | No match in ZIP+4 P&G records exist |
| I2 | General Delivery match in ZIP+4/ G rec only |
| ** I3 | No match in ZIP+4/City State |

## Last Line

| | |
|---|---|
| JA | Input city/ZIP Code correspond; exact match in ZIP Code |
| JB | Input city/ZIP Code correspond; Input City is non-mailing name, exact match in ZIP Code |
| JC | Input city/ZIP Code don't correspond; inexact match in ZIP Code |
| JD | Input city/ZIP Code don't correspond; inexact match in city |
| JI | Input city/ZIP Code don't correspond; best candidate is inexact match in finance number, but not in either City or ZIP Code. No Match. |
| J0 | 5-digit |
| J1 | Dropped 5-digit |
| * J2 | 5-digit with misspelled street |
| * J3 | Dropped 5-digit with misspelled street |
| J4 | 5-digit with dropped component |
| J5 | Dropped 5-digit and component |
| * J6 | 5-digit with dropped component and misspelled street |
| * J7 | Dropped 5-digit and component with misspelled street |
| J8 | 5-digit with misspelled city |
| * J9 | Dropped 5-digit with misspelled city |

## Multiple Response+

| | |
|---|---|
| ** K0 | 5-digit |
| ** K1 | Dropped 5-digit |
| ** K2 | 5-digit with misspelled street |
| ** K3 | Dropped 5-digit with misspelled street |
| ** K4 | 5-digit with dropped or incorrect component |
| ** K5 | Dropped 5-digit and/or incorrect component |
| ** K6 | 5-digit with dropped/incorrect component & misspelled street |
| ** K7 | Dropped 5-digit and/or incorrect component with misspelled street |

*No answer will be bypassed
** Return input record
*** No grading for standardization
**** Normalization required
+Double penalty

** K8  5-digit with misspelled city
** K9  Dropped 5-digit with misspelled city

### Inexact/Questionable Matching Logic

 * L0  5-digit
 * L1  Dropped 5-digit

### Key Elements Also Known As

**** MA  Out of range - no match
M0  With 5-digit
M1  Dropped 5-digit
M8  5-digit with misspelled city
 * M9  Dropped 5-digit with misspelled city

### *** NDF Position Error

N0  5-digit
N1  Dropped 5-digit

### Extra Information

O0  5-digit
O1  Dropped 5-digit
O2  PMB on address line
O3  PMB on secondary address line
O4  Valid Secondary with '#' sign; exact match
O5  PMB number is a valid PO Box Number - no match
O6  Invalid secondary with '#' sign; default match
O7  Double '#' signs at the end of address line, valid or invalid

### Seattle Syndrome

P0  5-digit
P1  Dropped 5-digit

### *** Salt Lake Syndrome

 * Q0  5-digit
 * Q1  Dropped 5-digit

### ZIP Correction

R0  Incorrect 5-digit within finance no.
R1  Invalid 5-digit
R2  Incorrect 5-digit within finance no. and incorrect +4
R4  Incorrect 5-digit within finance no. and blank city/state
R5  Incorrect 5-digit not within finance no.

### Highrise Default or Delivery Point Alternate

S0  With 5-digit
S4  With 5-digit highrise
** S6  With 5-digit highrise multiple

### Hyphenated Ranges

T1  Numeric alpha no match to numeric/numeric alpha exists
T2  Alphanumeric/numeric alpha-transpose to make match
T3  Delete hyphen
T4  Add hyphen
T5  Secy alphanumeric insert hyphen and transpose – default
T6  Add alpha to match to numeric range only
** T7  Add double alphas and validate no match to numeric

---

** T8  Transpose alpha to beginning/no match to numeric range

### APO / FPO

UA  Bad org info in address line without ZIP Code
UB  Out of range records for PSC box numbers
U0  Clean military addresses with 5-digit
U1  Reversed box/PSC number with ZIP Code
U2  Reversed box/PSC number without ZIP Code
U3  Good address/ZIP Code with invalid city name
*** U4  PSC box turned into PO Box with ZIP Code
 ** U5  Missing PSC, CMR, unit number with good box number
U6  Good military address with invalid ZIP Code
U7  Bad org info in Firm Name field with good ZIP Code
U8  Bad org info in Firm Name field without ZIP Code
U9  Bad org info in address line with ZIP Code

### Delivery Address Line

** V0  Contains firm name
** V1  Contains highrise name

### Multiple Finance Number Matching

** W0  Multiple response within finance no. - dropped 5-digit
W1  Single response within finance no.- dropped 5-digit
W2  Altered street name
 * W3  No correlation between city and ZIP Code - match in ZIP Code
** W4  City and ZIP Code from different finance numbers
** W5  State does not agree with ZIP Code

### Highrise

X0  With a firm suite number
 * X2  With misspelled street
X8  With a firm suite number and misspelled city

### Split/Combined Elements

Y0  Combine pre-directional with street name
Y1  Split pre-directional words off street name
Y2  Split suffix words off street name
Y3  Drop suffix words off multi-word street names
Y4  Combine suffix with street name
Y5  Shift street name to pre-directional suffix to street name

### ZIPMove

Z0  Valid match in new finance number/Match.
Z1  Invalid match in ZIPMove/No Match.
Z2  Valid ZIPMove match; invalid in new finance number/No Match.

### Out of Range/Overlapping

** 10  Bad PO Box for finance no./ZIP
11  Overlapping PO Box ranges/return lowest ZIP+4
** 15  Bad rural route for finance no./ZIP
** 20  Invalid primary number
21  Invalid secondary number

### Unique ZIP Codes

4A  Valid city and ZIP Code
4B  Valid city and ZIP Code with valid add-on (match)

---

4C  Valid city and ZIP Code - default match
4D  Valid city and ZIP code with add-on (retain ZIP+4)
4E  No correlation between city and ZIP Code; match to city
** 4F  No correlation between city and ZIP Code (no match; delete ZIP Code)

### Puerto Rico

** 5A  Missing noise URB - end address/multiple with valid or invalid URB
5B  Drop or abbreviate leading suffix
5C  Alpha or numeric - end address
5D  Numeric house number - end address preceded by "#," "No.," or "Num"
5E  Alphanumeric house number - end address preceded by "Blq"
5F  Alphanumeric house number - begin/end address space alphanumeric
5G  Alphanumeric house number - begin/end address hyphen alphanumeric
5H  Hyphen house number/"Blq" and "Casa," "Blq" and "#"
** 5J  Address contains standalone word "Buzon" (no normal-ization)
 * 5K  No URB input - Match to address with blank URB
51  No URB input - single response
** 52  No URB input - multiple response
53  Valid URB on input - single response with valid/invalid URB
** 54  Valid URB on input - multiple response with valid/invalid URB
55  Missing noise URB - single response with valid/invalid URB
** 56  Missing noise URB - multiple response with valid/ invalid URB
57  Valid URB end address - single response with valid or invalid URB
** 58  Valid URB end address - multiple response with valid or invalid URB
59  Missing URB noise end address - single valid/invalid URB

### Magnet Streets With Multiple Parse Variations

** 6E  Parsed street name or ZIP+4 street name contains directional or suffix
6F  Variation in directional or suffix presentation
6G  Suffix or directional dropped
6H  Street name incorrectly split into multiple words
6K  Trailing numeric/alpha value following a valid suffix

### Multiple Address Lines and Perfect Addresses

7A  Address line split between two lines
70  Perfect address

    *   No answer will be bypassed
   **   Return input record
  ***   No grading for standardization
 ****   Normalization required
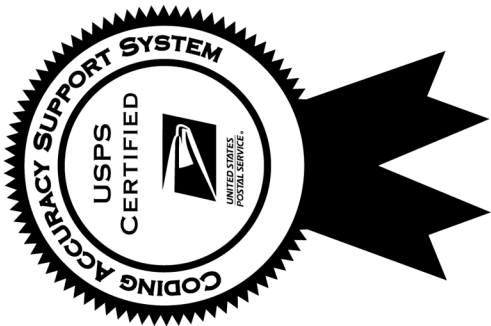 +Double penalty

# Appendix 4:

## Sample MASS Certificate

# Coding Accuracy Support System
## Quality Certification
*for*
## Multiline Optical Character Reader
ZIP+4 and Delivery Point Code Matching

Bruce's Postal Shop
ES (3.0)
Mailcode (ES - 3)

**Serial Number**     **0000**

_____
*Manager*
*National Customer Support Center*

_____
*Date*

*This certificate is valid 01/97 thru 07/14/97*

# Appendix 5:

## Sample CASS Customer No Match Record

# US POSTAL SERVICE - CODING ACCURACY SUPPORT SYSTEM
## NATIONAL CUSTOMER SUPPORT CENTER
### CUSTOMER NO MATCH RECORD
### ADDRESSES WHICH ARE GRADED AND SCORED

Customer Name: **A B C Company**

Customer ID: **00000OAA1**

| CASS Record Given | CASS Standardization Answer | Customer Record Returned |
|---|---|---|

**Record 1**

CASS Record Given:
HIRES ABSHIRE
190 E BEECH ST
SULPHUR            LA    70663
CASS Key: H98081173   ZIP+4 Update Key Number: V207899309

CASS Standardization Answer:
HIRES ABSHIRE
190 E BEECH ST
SULPHUR            LA   70663-5504
DPBC 90
Special Flag: D0   Record Type: S   ZIP+4 Odd/Even: E

Customer Record Returned:
ZIP+4 Answer Returned: 70663-5504
DPBC Answer Returned: 60*

**Record 2**

CASS Record Given:
CIRUIT CT CLERK
1539 STATE RD 39
LA PORTE            IN
CASS Key: H9807292   ZIP+4 Update Key Number: X106329258

CASS Standardization Answer:
CIRCUIT CT CLERK
1539 S STATE ROAD 39
LA PORTE            IN   46350-6301
DPBC 39
Special Flag: D1   Record Type: S   ZIP+4 Odd/Even: O

Customer Record Returned:
ZIP+4 Answer Returned: 46350-3115
DPBC Answer Returned: 39

**Record 3**

CASS Record Given:
MIKES MISSIONS INC
HAMPTON UNIVERSITY
HAMPTON            VA    23668
CASS Key: H9803354   ZIP+4 Update Key Number: X206541108

CASS Standardization Answer:
MIKES MISSIONS INC
DPBC 158
Special Flag: V0   Record Type: S   ZIP+4 Odd/Even: O   6002

Customer Record Returned:
ZIP+4 Answer Returned: 23668-0100
DPBC Answer Returned: 99

**Record 4**

CASS Record Given:
STAHL AND NEAL
9161 NORTHCREEK LN
DAYTON            OH    45458
CASS Key: H9803984   ZIP+4 Update Key Number: 

CASS Standardization Answer:
STAHL AND NEAL
9161 NORTHCREEK LN
DAYTON            OH   45458-9325
DPBC
Special Flag: Y0   Record Type: S   ZIP+4 Odd/Even: O   6018

Customer Record Returned:
ZIP+4 Answer Returned: 45458-3627
DPBC Answer Returned: 61

**Record 5**

CASS Record Given:
GAILS GALLEY
PO BOX 22152
FIRESTONE PARK      CA    90001
CASS Key: H9806810   ZIP+4 Update Key Number: 

CASS Standardization Answer:
GAILS GALLEY
DPBC 52
Special Flag: 10   Record Type: P   ZIP+4 Odd/Even:

Customer Record Returned:
ZIP+4 Answer Returned: 90022-0152
DPBC Answer Returned: 52

#### **** REFER TO LAST PAGE OF ERROR REPORT FOR TRANSLATION OF ERROR CODES ****

# Appendix 6:

## CASS Customer Statistics

| USPS 47-2467 | U.S. Postal Service - Coding Accuracy Support System | Date: 01/14/97 |
|---|---|---|
| | National Customer Support Center | Time: 23:18:10 |
| REPORT CII030PI | Customer Statistics | Page: 1 |

CUSTOMER NAME    BRUCE'S POSTAL SHOP        CUSTOMER ID:    00000OAA1

| GRADING STATISTICS | COUNT | PERCENT |
|---|---|---|
| INITIAL TOTAL CASS RECORDS | 350 | 100.00 |
| TOTAL RECORDS AVAILABLE FOR GRADING | 289 | 98.24 |
| INCORRECTLY CODED RECORDS | 5 | 1.75 |
| INCORRECTLY CODED DPBC | 1 | |